IN THE CLAIMS:

Amended claims follow:

1. (Currently Amended) A system for identifying a macro virus family using a macro virus definitions database, comprising:

a macro virus definitions database comprising a set of indices and macro virus definition data files with each index referencing one or more of the macro virus definition data files and each macro virus definition data file defining macro virus attributes for known macro viruses that are each comprised of at least one macro, the sets of the indices and the macro virus definition data files being organized into a hierarchy according to macro virus families based on a type of application to which the macro applies;

a parser parsing a suspect file into tokens comprising one of individual string constants and source code text and storing the tokens as suspect strings into a hierarchical parse tree;

a macro virus checker ~~traversing the hierarchical parse tree to retrieve each suspect string and~~ comparing ~~the~~each suspect string to the macro virus attributes defined in the one or more macro virus definition data files for each macro virus family in the macro virus definitions database and determining each macro virus family to which the suspect string belongs from the index for each macro virus definition data file at least partially containing the suspect string;

the macro virus checker parsing the macro virus attributes from one or more file objects and analyzing the macro virus definition data files by index for each macro virus family; and

the macro virus checker iteratively retrieving each macro virus definition data file using the index for each macro virus family and providing the macro virus attributes defined in the retrieved macro virus definition data file.

2. (Original) A system according to Claim 1, further comprising:

the macro virus definition data files being indexed into the macro virus families categorized by a replication method employed.

3. (Previously Amended) A system according to Claim 1, wherein the suspect string comprises part of the suspect file comprising a plurality of individual suspect strings.

4. (Previously Amended): A system according to Claim 3, further comprising:

the macro virus checker identifying a replication method common to a plurality of the individual suspect strings in the suspect file.

5. (Original) A system according to Claim 4, further comprising:

the macro virus checker identifying the macro virus family by which the common replication method is indexed.

6. (Original) A system according to Claim 1, further comprising:

the macro virus definitions database storing string constants common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

the macro virus checker comparing the suspect string to the string constants in the one or more macro virus definition data files for each macro virus family.

7. (Original) A system according to Claim 6, further comprising:

a parameter specifying a threshold to matches of commonly shared string constants.

8. (Original) A system according to Claim 6, further comprising:

a parameter specifying a minimum length of commonly shared string constants.

9. (Original) A system according to Claim 1, further comprising:

the macro virus definitions database storing source code text common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

the macro virus checker comparing the suspect string to the source code text in the one or more macro virus definition data files for each macro virus family.

10. (Original) A system according to Claim 9, further comprising:

a parameter specifying a threshold to matches of commonly shared source code text.

11. (Original) A system according to Claim 9, further comprising:

a set of keywords used in the stored source code text to identify each replication method employed.

12. (Original) A system according to Claim 1, further comprising:

the macro virus checker resetting the index referencing one or more of the macro virus definition data files for at least one macro virus family and creating a new macro virus definition data file entry comprising an index referencing one or more macro virus definition files.

13. (Original) A system according to Claim 12, further comprising:

the new macro virus definition data file entry defining the macro virus attributes by storing at least one of a string constant and source code text.

14. (Cancelled)

15. (Currently Amended) A system according to Claim ~~14~~1, further comprising:

the macro virus checker cross referencing at least one of a string constant and source code text from the parsed macro file attributes against the macro virus attributes defined in the virus definition data files.

16. (Cancelled)

17. (Currently Amended) A method for identifying a macro virus family using a macro virus definitions database, comprising:

maintaining a macro virus definitions database comprising a set of indices and macro virus definition data files with each index referencing one or more of the macro virus definition data files and each macro virus definition data file defining macro virus attributes for known macro viruses that are each comprised of at least one macro;

organizing the sets of the indices and the macro virus definition data files into a hierarchy according to macro virus families based on a type of application to which the macro applies;

parsing a suspect file into tokens comprising one of individual string constants and source code text and storing the tokens as suspect strings into a hierarchical parse tree;

~~traversing the hierarchical parse tree to retrieve each suspect string and~~ comparing ~~the~~each the suspect string to the macro virus attributes defined in the one or more macro virus definition data files for each macro virus family in the macro virus definitions database; and

determining each macro virus family to which the suspect string belongs from the index for each macro virus definition data file at least partially containing the suspect string;

parsing the macro virus attributes from one or more file objects and analyzing the macro virus definition data files by index for each macro virus family; and

iteratively retrieving each macro virus definition data file using the index for each macro virus family and providing the macro virus attributes defined in the retrieved macro virus definition data file.

18. (Original) A method according to Claim 17, further comprising:

indexing the macro virus definition data files into the macro virus families categorized by a replication method employed.

19. (Previously Amended) A method according to Claim 17, further comprising:

providing the suspect string as part of the suspect file comprising a plurality of individual suspect strings.

20. (Previously Amended) A method according to Claim 19, further comprising:

identifying a replication method common to a plurality of the individual suspect strings in the suspect file.

21. (Original) A method according to Claim 20, further comprising:

identifying the macro virus family by which the common replication method is indexed.

22. (Original) A method according to Claim 17, further comprising:

storing string constants common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

comparing the suspect string to the string constants in the one or more macro virus definition data files for each macro virus family.

23. (Original) A method according to Claim 22, further comprising:

applying a threshold to matches of commonly shared string constants.

24. (Original) A method according to Claim 22, further comprising:

designating a minimum length of commonly shared string constants.

25. (Original) A method according to Claim 17, further comprising:

storing source code text common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

comparing the suspect string to the source code text in the one or more macro virus definition data files for each macro virus family.

26. (Original) A method according to Claim 25, further comprising: applying a threshold to matches of commonly shared source code text.

27. (Original) A method according to Claim 25, further comprising: defining a set of keywords used in the stored source code text identifying each replication method employed.

28. (Original) A method according to Claim 17, further comprising:

resetting the index referencing one or more of the macro virus definition data files for at least one macro virus family; and

creating a new macro virus definition data file entry comprising an index referencing one or more macro virus definition files.

29. (Original) A method according to Claim 28, further comprising:

defining the macro virus attributes for the new macro virus definition data file entry by storing at least one of a string constant and source code text.

30. (Cancelled)

31. (Currently Amended) A method according to Claim ~~30~~17, further comprising:

cross referencing at least one of a string constant and source code text from the parsed macro file attributes against the macro virus attributes defined in the virus definition data files.

32. (Cancelled)

33. (Currently Amended) A computer-readable storage medium holding code for performing the method according to Claims 17, 18, 19, 22, 25, or 28, ~~30, or 32~~.

34. (Currently Amended) A system for identifying a macro virus family using a macro virus definitions database, comprising:

a macro virus definitions database comprising a set of indices and associated macro virus definition data files, further comprising:

one or more of the macro virus definition data files referenced by the associated index with each macro virus definition data file defining macro virus attributes for known macro viruses that are each comprised of at least one macro;

a hierarchy organized according to a macro family to which each of the sets of the indices and the macro virus definition data files belong based on a type of application to which the macro applies;

a parser parsing a suspect file into tokens comprising one of individual string constants and source code text and storing the tokens as strings into a hierarchical parse tree;

a macro virus checker ~~traversing the hierarchical parse tree to retrieve the strings and~~ comparing one or more strings stored in a suspect file to the macro virus attributes defined in the one or more macro virus definition data files for each macro virus family in the macro virus definitions database and determining the macro virus family to which the suspect file belongs from the indices for each of the macro virus definition data files at least partially containing the suspect file;

the macro virus checker parsing macro virus attributes from one or more file objects and analyzing the macro virus definition data files by index for each macro virus family; and

the macro virus checker iteratively retrieving each macro virus definition data file using the index for each macro virus family and providing the macro virus attributes defined in the retrieved macro virus definition data file.

35. (Previously Amended) A system according to Claim 34, further comprising:

each macro virus family defined according to a replication method common to each of the macro virus definition data files associated with one such index.

36. (Original) A system according to Claim 34, further comprising:

the macro virus definitions database storing at least one of string constants and source code text common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

the macro virus checker comparing the suspect string to the at least one of the string constants and the source code text in the one or more macro virus definition data files for each macro virus family.

37. (Original) A system according to Claim 36, further comprising:

the macro virus checker applying a threshold to matches of at least one of commonly shared string constants and commonly shared source code text.

38. (Original) A system according to Claim 36, further comprising:

the macro virus checker designating a minimum length of commonly shared string constants.

39. (Currently Amended) A method for identifying a macro virus family using a macro virus definitions database, comprising:

maintaining a macro virus definitions database comprising a set of indices and associated macro virus definition data files, further comprising:

referencing one or more of the macro virus definition data files by the associated index with each macro virus definition data file defining macro virus attributes for known macro viruses that are each comprised of at least one macro;

organizing the sets of the indices and the macro virus definition data files into a hierarchy according to macro virus families based on a type of application to which the macro applies;

parsing a suspect file into tokens comprising one of individual string constants and source code text and storing the tokens as strings into a hierarchical parse tree;

~~traversing the hierarchical parse tree to retrieve the strings and~~ comparing the strings to the macro virus attributes defined in the one or more macro virus definition data files for each macro virus family in the macro virus definitions database;

determining the macro virus family to which the suspect file belongs from the indices for each of the macro virus definition data files at least partially containing the suspect file;

parsing macro virus attributes from one or more file objects and analyzing the macro virus definition data files by index for each macro virus family; and

iteratively retrieving each macro virus definition data file using the index for each macro virus family and providing the macro virus attributes defined in the retrieved macro virus definition data file.

40. (Previously Amended) A method according to Claim 39, further comprising:

defining each macro virus family according to a replication method common to each of the macro virus definition data files associated with one such index.

41. (Original) A method according to Claim 39, further comprising:

storing at least one of string constants and source code text common to each macro virus family in the macro virus attributes for the macro virus definition data files; and

comparing the suspect string to the at least one of the string constants and the source code text in the one or more macro virus definition data files for each macro virus family.

42. (Original) A method according to Claim 41, further comprising: applying a threshold to matches of at least one of commonly shared string constants and commonly shared source code text.

43. (Original) A method according to Claim 41, further comprising: designating a minimum length of commonly shared string constants.

44. (Original) A computer-readable storage medium holding code for performing the method according to Claims 39, 40, or 41.